

# Exterior Angle Theorem HW Key

$$\begin{array}{r} \textcircled{1} \quad 128 = ? + 56 \\ -56 \quad -56 \\ \hline 72 = ? \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad ? = 70 + 40 \\ \hline ? = 110^\circ \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad ? = 40 + 75 \\ \hline ? = 115^\circ \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 150 = 50 + ? \\ -50 \quad -50 \\ \hline 100^\circ = ? \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad ? + 28 = 68 \\ -28 \quad -28 \\ \hline ? = 40^\circ \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 114 = 92 + ? \\ -92 \quad -92 \\ \hline 22^\circ = ? \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 6x + 9 + 3x - 8 = 100 \\ 9x + 1 = 100 \\ -1 \quad -1 \\ \hline 9x = 99 \\ \frac{9x}{9} = \frac{99}{9} \\ \hline x = 11 \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 7x + 10 + 3x = 110 \\ 10x + 10 = 110 \\ -10 \quad -10 \\ \hline 10x = 100 \\ \frac{10x}{10} = \frac{100}{10} \\ \hline x = 10 \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 39 + 13 + 6x = 12x + 4 \\ 6x + 52 = 12x + 4 \\ -6x \quad -4 \quad -6x \quad -4 \\ \hline 48 = 6x \\ \frac{48}{6} = \frac{6x}{6} \\ \hline 8 = x \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 40 + 8x = 16x \\ -8x \quad -8x \\ \hline 40 = 8x \\ \frac{40}{8} = \frac{8x}{8} \\ \hline 5 = x \end{array}$$

$$\begin{array}{r} \textcircled{11} \quad 6x + 1 + 45 = 11x + 1 \\ 6x + 46 = 11x + 1 \\ -6x \quad -1 \quad -6x \quad -1 \\ \hline 45 = 5x \\ \frac{45}{5} = \frac{5x}{5} \\ \hline 9 = x \end{array}$$

$$\begin{aligned} m\angle WCD &= 11x + 1 \\ &= 11 \cdot 9 + 1 \\ &= 99 + 1 \\ &= 100^\circ \end{aligned}$$

$$\begin{array}{r} \textcircled{12} \quad 4x + 8 + 3x + 6 = 70 \\ 7x + 14 = 70 \\ -14 \quad -14 \\ \hline 7x = 56 \\ \frac{7x}{7} = \frac{56}{7} \\ \hline x = 8 \end{array}$$

$$\begin{aligned} m\angle V &= 4x + 8 \\ &= 4 \cdot 8 + 8 \\ &= 32 + 8 \\ &= 40^\circ \end{aligned}$$